CLAIMS

What is claimed is:

1. An apparatus which processes audio and/or video (AV) data in an interactive mode using a markup document, comprising:

an AV playback engine which decodes the AV data to output an AV picture; and an enhanced audio and/or video (ENAV) engine which interprets the markup document to obtain a source markup picture, transforms the source markup picture into a markup picture, combines the markup picture and the AV picture, and outputs an interactive picture including the markup picture and the AV picture.

- 2. The apparatus of claim 1, wherein the ENAV engine reads device-aspect-ratio information included in the markup document and obtains the markup picture according to the device-aspect-ratio information.
- 3. The apparatus of claim 1, wherein the ENAV engine obtains device-aspect-ratio information which is information on an aspect ratio of a screen of a target display device intended to display the markup document in the interactive mode.
- 4. The apparatus of claim 1, wherein the ENAV engine obtains device-aspect-ratio information which is information on an aspect ratio of a screen of a target display device intended to display the markup document in the interactive mode according to a design of a markup document maker.
- 5. The apparatus of claim 1, wherein the ENAV engine parses device-aspect-ratio information which is written in the markup document using a property of a tag.
- 6. The apparatus of claim 1, wherein the ENAV engine transforms the source markup picture into the markup picture with a predetermined aspect ratio according to device-aspect-ratio information of the markup document.
- 7. The apparatus of claim 1, wherein the ENAV engine transforms the source markup picture into the markup picture with an aspect ratio of 4:3 or 16:9 according to device-aspect-ratio information of the markup document.

- 8. The apparatus of claim 1, wherein the ENAV engine scales the source markup picture to output the markup picture corresponding to device-aspect-ratio information of the markup document in response to information on an aspect ratio of a destination device being different from the device-aspect-ratio information, the destination device substantially displaying the markup document and the device-aspect-ratio information being data including information on an aspect ratio of a target display device intended to display the markup document in the interactive mode.
- 9. An apparatus for processing a markup document in an interactive mode, comprising:

a controller to output a markup picture of the markup document and a video picture of an audio and/or video data in the interactive mode; and

a markup transformer which transforms the markup picture according to device-aspectratio information corresponding to the markup document, the device-aspect-ratio information being data including information on an aspect ratio of a target display device intended to display the markup document.

- 10. The apparatus of claim 9, wherein the controller embeds the video picture in the markup picture according to embedding information of the markup document
- 11. The apparatus of claim 9, wherein the device-aspect-ratio information is included in the markup document.
- 12. The apparatus of claim 9, wherein the markup transformer scales the markup picture according to the device-aspect-ratio information in response to information on an aspect ratio of a destination device displaying the markup document being different from the device-aspect-ratio information and outputs markup picture as is in response to the information on the aspect ratio of the destination device corresponding to the device-aspect-ratio information.